

REMARKS

The Office Action dated April 24, 2008 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-48 have been cancelled without prejudice or disclaimer. New claims 49-57 have been added. No new matter has been added. Therefore, claims 49-57 are currently pending in the application and are respectfully submitted for consideration.

The Office Action rejected claims 1-48 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Awater et al. (U.S. Patent No. 7,173,918) (“Awater”), in view of Crosbie (U.S. Patent No. 7,146,636) (“Crosbie”). The Office Action took the position that Awater discloses all the elements of the claims with the exception of “receiving roaming support information by means of signaling from a subscriber terminal via an interface to a load control device being located externally to the subscriber, and if so, sending a command to a serving access point associated with the subscriber terminal, the command instructing the serving access point to initialize roaming of the subscriber terminal to the another one of the plurality of access points,” with respect to claims 1, 11, 14, 24, 27, 37, 40-43, and 46-48. The Office Action then cited Crosbie as allegedly curing the deficiencies of Awater. Applicants respectfully submit that claims 1-48 have been cancelled. Furthermore, Applicants respectfully submit that claims 49-57 recite allowable subject matter for at least the following reasons.

Claim 49, upon which claims 50-52 are dependent, recites a method, which includes receiving, in a subscriber terminal, access point status information determined in a plurality of access points, and determining, in the subscriber terminal, communication status information related to said plurality of access points. The method further includes processing, in the subscriber terminal, said received access point status information and said communication status information in order to obtain roaming support information, and sending, from the subscriber terminal, said obtained roaming support information to a load control device, the load control device being located externally to the subscriber terminal.

Claim 53, upon which claims 54-56 are dependent, recites an apparatus, which includes a subscriber terminal portion, and a receiver configured to receive access point status information determined in a plurality of access points. The apparatus further includes a determiner configured to determine communication status information related to the plurality of access points, and a processor configured to process the received access point status information and the communication status information in order to obtain roaming support information. The apparatus further includes a transmitter configured to send the obtained roaming support information to a load control device, the load control device being located externally to the subscriber terminal.

Claim 57 recites a computer program product embodied on a computer readable medium. The computer program product is configured to execute a method in a subscriber terminal. The method includes receiving access point status information

determined in a plurality of access points, and determining communication status information related to said plurality of access points. The method further includes processing said received access point status information and said communication status information in order to obtain roaming support information, and sending, from the subscriber terminal, said obtained roaming support information to a load control device, the load control device being located externally to the subscriber terminal.

As will be discussed below, the combination of Atwater and Crosbie fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above.

Awater discloses a communication system with a plurality of access points, and at least one network station. Awater further discloses that the network station is arranged to communicate with one of the plurality of access points through a wireless communication protocol, and that each access point is able to monitor its access point traffic load, and transmit an access point traffic load parameter to the network station. Awater further discloses that the network station is able to monitor its network station traffic load, store a network station traffic load parameter, receive access point load parameters from the access points, and select a communication connection with one of the access points using a predetermined cost function which takes into account the access point traffic load parameters and the network station traffic load parameters. Furthermore, Awater discloses that the calculating of the traffic load parameters, and the deciding of which access point to use for the communication connection, both occur at the network station.

Finally, Awater discloses that the network station connects to the network by means of a wireless data communication, and that the network station may be any type of telecommunication equipment that uses a wireless data communication network, such as a mobile telephone, a pager, a personal digital assistant, a personal computer, a laptop computer, etc. (see Awater at Abstract and col. 5, lines 59-67).

Crosbie generally discloses a wireless local area network (WLAN) which includes mobile devices that are allowed to transfer wireless connections between WLAN subnets or channels having different access points. The access points connect to a central controller or roaming server that supports seamless hand-offs of mobile devices from one access point to another access point. The roaming server supports the reassignment of session data parameters from one access point to another so that the mobile device can use the same parameters for communication to a new access point. (see Crosbie at Abstract).

Applicants respectfully submit that Awater and Crosbie, whether considered individually or in combination, fail to disclose, teach, or suggest, all of the elements of the present claims. For example, the combination of Awater and Crosbie fails to disclose, teach, or suggest, at least, “*sending, from the subscriber terminal, said obtained roaming support information to a load control device, the load control device being located externally to the subscriber terminal,*” as recited in independent claim 49, and similarly recited in independent claims 53 and 57.

As discussed in a previous response, Awater is directed to a conventional handoff scheme in a wireless local area network, i.e. a handoff scheme where a handover calculation and decision is made by the mobile terminal itself as opposed to a network element. Awater fails to disclose or suggest that the handover calculation or decision is performed in a load control device which is not located in the mobile terminal (i.e. which is external to the mobile terminal), and thus, Awater fails to disclose, or suggest, the provision of information for roaming support (i.e. information which is to be used for deciding on the roaming) to a load control device which is not located in the subscriber terminal (i.e. which is external). Moreover, the disclosure of such a provision of information is not only lacking in Awater, but such a disclosure would be in direct contradiction to the configuration of the system disclosed in Awater, since the roaming decision is to be made in the terminal and not anywhere else.

Furthermore, Crosbie does not cure the deficiencies of Awater. As discussed above, Crosbie discloses a WLAN which includes mobile devices that are allowed to transfer wireless connections between WLAN subnets or channels having different access points. The access points connect to a central controller or roaming server that supports seamless hand-offs of mobile devices from one access point to another access point. During the operation of a transfer of a data link from one access point to another access point, the roaming server determines that a mobile device should change its LAN connection point from the first access point to the second access point based on a triggering event. Such an event can be the moving of the mobile device or receiving a

request from a mobile device or access point to move the mobile device. The triggering event can also be a load balancing event, such as receiving an indication that one access point is congested and another access point is less congested. The triggering event can also be receiving an indication of the quality of service level assigned to the user of the mobile device. Furthermore, the triggering event can also be an indication of a poor or declining quality of the connection between the mobile device and an access point. (see Crosbie at col. 7, lines 19-45).

Thus, in Crosbie, it is necessary to provide the roaming server with a plurality of information which is sent to it from several different network elements with partly different timings and via several kinds of interfaces and link. Thus, instead of the subscriber terminal sending the roaming support information to the load balancer, it is the entire network of Crosbie, including the mobile station, the access point, and other network elements, which provide various portions of the plurality of information that the load balancer users to trigger a handoff of the mobile device. This results in the processing load in the roaming server in Crosbie being rather high. Furthermore, in Crosbie, it is necessary to provide the resources required for the transmission of the information from the network to the roaming server, which increases the costs of the network as a whole.

In contrast, according to embodiments of the invention, access point status information is received in a subscriber terminal. The terminal is also configured to determine communication status information related to the access points. The terminal

complies the access point status information and the communication status information into roaming support information, which is transmitted to a load controller capable of processing the roaming support information so as to determine a need for handoffs.

Therefore, for at least the reasons discussed above, the combination of Awater and Crosbie fails to disclose, teach, or suggest, all of the elements of independent claims 49, 53, and 57. For the reasons stated above, Applicants respectfully request that this rejection be withdrawn.

Claims 50-52 depend upon independent claim 49. Claims 54-56 depend upon independent claim 53. Thus, Applicants respectfully submit that claims 50-52 and 54-56 should be allowed for at least their dependence upon independent claims 49 and 53, and for the specific elements recited therein.

For at least the reasons discussed above, Applicants respectfully submit that the cited prior art references fails to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 49-57 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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